WHAT IS CLAIMED IS:

1. A method for identifying an agent for treating a diabetic or pre-diabetic individual, the method comprising the steps of:

(i) contacting a candidate agent with a kidney or pancreatic cell that expresses a nucleic acid encoding a polypeptide having glucose phosphorylating activity that comprises at least 20 contiguous amino acids of SEQ ID NO:2;

(ii) determining the activity of the polypeptide; and

(ii) selecting an agent that inhibits the activity of the polypeptide, thereby identifying an agent for treating a diabetic or pre-diabetic individual.

2. The method of claim 1, wherein the polypeptide comprises SEQ ID NO:2.

3. The method of claim 1, wherein the polypeptide is overexpressed relative to normal.

4. The method of claim 1, wherein the cell is a pancreatic cell.

5. The method of claim 4, wherein the pancreatic cell is from a diabetic animal.

6. The method of claim 1, wherein the step of determining the activity of activity of the polypeptide comprises determining the ability of the polypeptide to phosphorylate a hexose.

7. The method of claim 1, wherein the step of determining the activity of the polypeptide comprises determining the amount of protein present using an immunoassay.

8. The method of claim 1, wherein the agent is an siRNA.

9. The method of claim 1, wherein the agent is an antisense RNA.

10. A method for identifying an agent for treating a diabetic or pre-diabetic individual, the method comprising the steps of:

(i) contacting a candidate agent with a kidney or pancreatic cell that expresses a nucleic acid encoding a polypeptide having glucose phosphorylating activity that comprises at least 20 contiguous amino acids of SEQ ID NO:2;

(ii) determining the level of an RNA that encodes the polypeptide; and

(ii) selecting an agent that inhibits the activity of the polypeptide, thereby identifying an agent for treating a diabetic or pre-diabetic individual.

11. The method of claim 10, wherein the polypeptide comprises SEQ ID NO:2.

12. The method of claim 10, wherein the cell is a pancreatic cell.

13. The method of claim 10 wherein the pancreatic cell is from a diabetic animal.

14. The method of claim 10, wherein the step of determining the level of an RNA that encodes the polypeptide comprises an amplification reaction.

15. The method of claim 10, wherein the cell is a pancreatic islet cell.

16. The method of claim 10, wherein the agent is an siRNA.

17. The method of claim 10, wherein the agent is an antisense RNA.

18. The method of claim 1 or claim 10, further comprising:
administering the agent to a diabetic or pre-diabetic animal;
determining the response of the animal to glucose; and
selecting a candidate agent that improves the response to glucose.

19. The method of claim 18, wherein the step of determining the response of the animal to glucose comprises determining the level of glucose-induced insulin secretion.

20. The method of claim 1 or claim 10, further comprising:
administering the agent to an animal that is a diabetic or pre-diabetic model;
determining the level of the polypeptide or the nucleic acid encoding the polypeptide in a pancreatic sample from the animal; and
selecting the candidate agent that decreases the level of the polypeptide or the nucleic acid.

21. A method for identifying an agent for treating a diabetic or pre-diabetic individual, the method comprising the steps of:

(i) contacting a candidate agent with a polypeptide having glucose phosphorylating activity that comprises at least 20 contiguous amino acids of SEQ ID NO:2;

(ii) determining binding of the agent to the polypeptide;

(iii) selecting an agent that binds to the polypeptide;

(iv) administering the agent to a diabetic or pre-diabetic animal;

(v) determining the response of the animal to glucose; and

(vi) selecting an agent that improves the response to glucose.

22. The method of claim 21, wherein the step of determining binding of the agent to the polypeptide comprises determining the activity of the polypeptide.

23. The method of claim 21, wherein the step of determining the response of the animal to glucose comprises determining the level of glucose-induced insulin secretion.

24. A method of regulating glucose sensitivity in a diabetic animal or a pre-diabetic animal, the method comprising administering to the animal a therapeutically effective amount of an agent identified by the method of claim 1, claim 10, or claim 24.

25. The method of claim 24, wherein the agent is administered to pancreatic tissue.

26. The method of claim 24, wherein the animal is a human.

27. A method of introducing an expression cassette into a pancreatic cell, the method comprising,

introducing into the cell an expression vector comprising a nucleic acid that, when expressed, inhibits the expression of a nucleic acid encoding a polypeptide having glucose phosphorylating activity that comprises at least 20 contiguous amino acids of SEQ ID NO:2.

28. The method of claim 27, wherein the polypeptide comprises SEQ ID NO:2.

29. The method of claim 27, further comprising introducing the cell into a diabetic animal.

30. The method of claim 29, wherein the cell is from the human.

31. A method of diagnosing a prediabetic or diabetic patient; the method comprising:

detecting an increase, relative to normal, in the level of a polypeptide of SEQ ID NO:2 in a sample from the patient, thereby diagnosing the diabetic or prediabetic patient.

32. An isolated nucleic acid encoding a polypeptide comprising an amino acid sequence as set forth in SEQ ID NO:4.

33. An isolated nucleic acid comprising the nucleic acid sequence of SEQ ID NO:3.